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LASIOCAMPID-MOTHS IN THE JAPAN-EMPIRE

By

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In this occasion the author will enumerate all the known species in Japan. The citation of the names in the following enumeration are not complete owing to the want of the pages alloted to the author, and mostly the original and newest ones being only recorded.

The systematic arranegment of the species in this essay is alphabetical, owing to the difficulty of determining their affinities.

In the Japan-Empire we have 55 species of the Lasiocampid-moths under 25 genera, of which 2 are new genera and one is new species. Besides, here 10 new local forms are described.

1. Gen. Amurilla Auriv. (Amuria Auriv.)

1. subpurpurea Butl.

Poecilocampa subpurpurea BUTL., T. E. S. Lond., p 18 (1881).

Lasiocampa dieckmanni GRAES., Berl. Ent. Zeit., XXXII, p. 128 (1888).

Amuria dieckmanni Auriv., Deutsch. Ent. Zeit. Lep., VII, p. 153 (1894).

Metanastria rubra HAMP., Brit. Ind. Moth., IV, p. 488 (1896).

Amurilla dieckmanni Auriv., Ent. Tidskr., XXII, p. 251 (1901).

Metanastria subpurpurea Grüne., Seitz. Macrolep., ii, 161, Pl. 26, f. c. (1911); Mats., 6000 Ins. Jap., p. 690, f. 379 (1931).

This is quite common in Saghalien and Hokkaido, the female being rare. Hab.—Saghalien, Hokkaido, Honshu, Siberia, Assam, Birma.

Nom. Jap.—Sukashi-kareha.

2. takamukuana Mats.

Metanastria takamukuana MATS., Ins. Mats., p. 119, f. 1 (1927).

One male specimen was collected on the 29th of July, 1916, by the late

T. TAKAMUKU at Mt. Yatsugadake in the Prov. Shinano.

Hab.—Honshu (Shinano).

Nom. Jap. — Takamuku-sukashikareha.

2. Gen. Arguda Moor. (Radhica Moor)

1. flavovittata Moor.

Radhica flavovittata Moor., Descr. Ind. Lep. Atk., p. 79 (1879).

[Ins. Mats., Vol. VII, No. 1 & 2 December 1932]

Arguda flavovittata HAMPS., Faun. Brit. Ind. ii, p. 412, f. 284, \$\phi\$ (1892); GRÜNB., Seitz Macrolep. Palaearkt. ii, p. 179, Pl. 29, f. d (1911); GRÜNB. l, c. Ind. Austr., ii, (1921); MATS., 6000 Ins. Jap., p. 678, f. 341 (1931).

This is not rare in Horisha, being attracted by the lamp. This species was not yet reported from Formosa by any Author.

The specimen from Formosa differs much in colour, being paler and the marking is not so conspicuous as in the typical specimen, so the author proposes to give a new name for this lokal form—f. taiwanensis MATS. (n. f.).

Hab.—Formosa.

Nom. Jap.—Madara-kareha.

3. Gen. Bhima MR.

1. idiota Graes.

Pyrosis idiota Graes., Berl. Ent. Zeitschr., xxxii, p. 131 (1888).

Bhima idiota Grünb., Seitz Macrolep. ii, p. 178, Pl. 29, f. d (1911); MATS., 6000 Ins. Jap., p. 679, f. 343, Q (1931).

This is not rare in Manchuria, the larva being injurious to the poplar-tree.

Hab.—Korea, Manchuria, Siberia, Europe.

Nom. Jap.—Doro-kareha.

4. Gen. Cosmotriche HB.

1. albomaculata Brem.

Odonestis albomaculata BREM., Bull. Acad. Péters. iii, p. 479 (1861).

Cosmotriche albomaculata GRÜNB., Seitz Macrolep. ii, p. 164, Pl. 26, f. g (1911); MATS., 6000 Ins. Jap., p. 679, f. 344, ♀ (1931).

This is common in Japan, the larva eating the bamboo-leaves.

Hab.-Hokkaido, Honshu, China, Manchuria, Amur.

Nom. Jap. - Tobiiro-takekareha.

2. divisa Moor.

Odonestis divisa MODR., P. Z. S. Lond., p. 408 (1879).

Cosmotriche laeta MATS., Thous. Ins. Jap. Add. IV, p. 926, Pl. 55, f. 29, & (1921).

Cosmotriche divisa GRÜNB., Seitz Ind. Austr. Macrolep., ii, p. 407, Pl. 32, f. d (1921); MATS., 6000 Ins. Jap., p. 679, f. 345 (1931).

This is not rare in Formosa, being found in Horisha.

Hab.—Honshu, Korea, Formosa, Amur, China, India.

Nom. Jap.—Hime-takekareha.

a. f. surphurea Auriv., Iris, 7, p. 164 (1890); Grünb., l. c. p. 407 (1931). The author has 3 (1 &, 2 ?) specimens from Baibara and Horisha collected by Messrs. R. Saito, K. Kikuchi and the late T. Такамики.

Hab.—Formosa, China, N. India.

3. formosana Mats.

Cosmotriche formosana MATS., Thous. Ins. Jap. Add. IV, p. 908, Pl. 65, f. 16, & (1921); 6000 Ins. Jap., p. 680, f. 346 (1931).

This was found at near Lake Funkiko (Arisan-region), but it seems to be rare.

Hab.—Formosa (Arisan-region).

Nom. Jap.—Taiwan-takekareha.

4. nigropuncta WILEM.

Cosmetriche nigropuneta WILEM., Ent., p. 190 (1910); GRÜNB., Seitz Ind. Austr. Macrolep. ii, p. 408 (1921).

Cosmotriche marginalis Mats., Thos. Ins. Jap. Add. IV, p. 909, Pl. 56, f. 18, 3 (1921). Cosmotriche nigropuncta (as nigropunctata) Mats., 6000 Ins. Jap., p. 680, f. 346 (1931).

This was collected in June by the author at Horisha, being not rare. WILEMAN collected this species at Kanshirei in July.

Hab.—Formosa (Horisha, Kanshirei).

Nom. Jap.—Sotomurasaki-kareha:

5. cochreipuncta WILEM.

Odonestis ochreipuncta WII.EM. Ent., P. 191 (1910).

Cosmotriche ochreipuncta GRÜNB, Seitz Macrolep. Ind. Austr., ii, p. 407, Pl. 32, f. d (1921); 6000 Ins. Jap., p. 680, f. 348 (1931).

This is a rare species, being found only in the mountainous regions of Formosa.

Hab.—Formosa.

Nom. Jap.—Monki-takekareha.

6. potatoria L.

Bombyx potatoria L., Syst. Nat., X, p. 498 (1758).

Cosmotriche potatoria MATS., 6000 Ins. Jap., p. 680, f. 349 (1931).

This is very common in Hokkaido, the larva feeding on Bambusa and Arundo-spp.

Hab.—Saghalien, Hokkaido, Honshu, Korea, China, Manchuria, Europe. Nom. Jap.—*Take-kareha*.

f. askoldensis OBTH., Etud. d'Ent. V, p. 28 (1881).

Hab.—Saghalien, Hokkaido, Honshu, Korea, Amur.

7. pyriformis Moor.

Odonestis pyriformis Moor., P. Z. S. Lond., p. 408, Pl. 34, f. 7 (1879).

Cosmotriche pyriformis GRÖNB., Seitz Indo-Austr. Macrolep., ii, p. 407, Pl. 33, f. b (1921); MATS., 6000 Ins. Jap., p. 681, f. 352 (1931).

The author has caught this species in the mountainous region of Taipin, being rare.

Hab.—Formosa, India.

Nom. Jap.—Taiwan-hime-takekareha.

8. tamahonis MATS.

Cosmotriche tamahonis Mats., Journ. Col. Agr. Hokkaido Imp. Univ., XIX, p. 21, Pl. ii, f. 13, 3 (1927); Mats., 6000 Ins. Jap., p. 681, f. 351 (1931).

This was found by Messrs. T. Uchida, H. Kôno and Y. Miwa at Tamaho (Niitaka-region), a mountainous region of Formosa.

Hab.—Formosa.

Nom. Jap.—Tamaho-takekareha.

Gen. Dendrolimus GERM.

1. albolineatus MATS.

Dendrolimus sibiricus TSCHTVR. f. albolineata MATS., Thous. Ins. Jap. Add. IV, p. 918, Pl. 68, f. 8, 3, 10, \$\partial (1921).

Dendrolimus albolineatus MATS., Journ. Coll. Agr. Hokk. Imp. Univ., XVIII, p. 8, Pl. 2, f. 2, 3, 4, (1926); 6000 Ins. Jap., p. 681, f. 352 (1931).

The larva of this species is very injurious to Abies-spp. in Saghalien and Kuriles.

Hab.—Saghalien, Kuriles.

Nom. Jap.—Karafuto-matsukareha.

a. f. albata Mats., Journ. Coll. Agr. Hokkaido Imp. Univ., XVIII, p. 11 (1926).

Hab.—Saghalien.

- b. f. *albida* Mars., Thous. Ins. Jap. Add., p. 910, Pl. 68, f. 9, & (1921). Hab.—Saghalien.
- c. f. *brunneo-pallida* Mats., l. c., p. 920. Pl. 69, f. 1, 3 (1921). Hab.—Saghalien.
- d. f. centro-pallida Mars., Journ. Coll. Agr. Hokkaido Imp. Univ., XVIII, p. 10, Pl. 3, f. 11, & (1926).

Hab.—Saghalien.

e. f. *centro-zonalis* Mars., l. c., p. 10, Pl. 3, f. 18, 3 (1926). Hab.—Saghalien.

f. f. frequens MATS., l. c., p. 9 (1926).

Hab.—Saghalien.

g. f. fuscolatifascia Mats., Thous. Ins. Jap. Add., IV, p. 919, f. 7 (1921).

Hab.—Saghalien.

h. f. ichinosawana Mats., Jour. Coll. Agr. Hokk. Imp. Univ., XVIII, p. 10 (1926).

Hab.—Saghalien.

i. f. kiminensis MATS., l. c., p. 9 (1926).

Hab.—Saghalien.

j. f. kurilensis Mats., l. c., p. 9, Pl. 3, f. 15, 8 (1926).

Hab.—Kuriles.

k. f. *nigribasalis* Mats., Thous. Ins. Jap. Add. VI, p. 919, Pl. 68, f. 8, \$ (1921).

Hab.—Saghalien.

l. f. nigriscens Mats., Jour. Coll. Agr. Hokk. Imp. Univ., XVIII, p. 9, Pl. 3, f. 7, \u03b3 (1926).

Hab.—Saghalien.

m. f. submarginata Mats., l. c., p. 10, Pl. 3, f. 16, \hat{g} (1926). Hab.—Saghalien.

4. jezoensis MATS.

Dendrolimus jezoensis MATS., Thous. Ins. Jap. Add. IV, p. 912, Pl. 67, f. 1, 9 (1921); 6000 Ins. Jap., p. 681, f. 353 (1931).

This is common in Hokkaido, the caterpillar being very injurious to *Abies* and *Picea*-spp.

Hab.—Hokkaido, Honshu.

Nom. Jap.—Jezo-matsukareha.

There are many aberrant forms and most of them are belonging to either of the following forms:

a. f. *aino* Mats., Thous. Ins. Jad. Add. IV, Pl, 67, f. 5, & (1921). Hab.—Hokkaido.

b. f. albescens MATS., l. c., f. 9, & (1921).

Hab.—Hokkaido.

c. f. albofasciata MATS., 1. c., f. 8, & (1921).

Hab.—Hokkaido.

d. f. brunneata Mats., l. c., p. 913, Pl. 68, f. 5, 3, Pl. 70, f. 8, 9 (1921).

Hab.—Hokkaido.

e. f. **fuscilineata** Mars., l. c., p. 913, Pl. 67, f. 3, 3 (1921). Hab.—Hokkaido.

f. f. infuscata Mars., I. c., p. 916, Pl. 67, f. 4, 8 (1921). Hab.—Hokkaido.

g. f. *isshikii* Mats., l. c., p. 915, Pl. 68, f. 1, $\hat{0}$ (1921). Hab.—Honshu.

h. f. *nigrofasciata* Mats., l. c., p. 914, f. 2, 3 (1921). Hab.—Hokkaido.

i. f. **nohirae** Mats., l. c., p. 915, Pl. 67, f. 10, & (1921). Hab.—Hokkaido.

j. f. **obsoleta** Mats., l. c., p. 914, Pl. 68, f. 4, $\hat{\circ}$ (1921). Hab.—Hokkaido.

k. f. *olivacea* Mars., l. c., p. 915, Pl. 67, f. 8, $\hat{0}$ (1921). Hab.—Hokkaido.

l. f. *pallescens* Mats., l. c., p. 914, f. 2, 3 (1921). Hab.—Honshu.

m. f. *tenuilinea* Mats., l. c., p. 914, f. 3, \hat{g} (1921). Hab.—Hokkaido.

3. punctatus WK.,

Oeona punctata WK., Cat. VI, p. 1418 (1858).

Lasiocampa remota WK., l. c., p. 1439 (1858).

Lebeda hebes WK., l. c., p. 1462 (1858).

Odonestis abstersa WK., l. c., XXXII, p. 553 (1865).

Odonestis sodalis WK., l. c., XXXII, p. 553 (1865).

Lasiocampa consimilis WK., l. c., XXXII, p. 562 (1865).

Lasiocampa innotata WK., l. c., IV, p. 1443 (1855).

Lasiocampa inconclusa WK., l. c., XXXII, p. 569 (1865).

Dendrolimus punctata GRÜNB., Seitz. Macrolep. ii. p. 173, Pl. 28, f. d (1911).

Dendrolimus punctatus MATS., 6000 Ins. Jap., p. 682, f. 354 (1931).

Hab.—China, Japan.

Nom. Jap. - Taiwan-matsukareha.

a. f. baibarana Mars., Jour. Coll. Agr. Hokkaido Imp. Univ., XVIII, p. 21, Pl III, f. 13. $\hat{\sigma}$ (1926).

Hab.—Formosa.

b. f. *kantozana* MATS., l. c., f. 12, \hat{a} (1926). Hab.—Formosa.

c. f. *pallidiola* Mats.. l. c., f. 14, \hat{z} (1926), Hab.—Formosa.

4. spectabilis Butl.

Odonestis spectabilis Butl., Ann. Mag. N. H. (4) XX, p. 482 (1877).

Oeona segregata, Butl., l. c., p. 482 (1877).

Dendrolimus segregatus GRUNB., Seitz Macrolep., ii, p. 172, Pl. 28, f. b (1911).

Dendrolimus spectabilis NAG., Bull. Nawa Ent. Lab. Gifu, ii. p. 16, Pl. 1, f. 11-14, Pl. IV, f. 8-11, 16-18 (1917).

This is most widely distributed pine-caterpillar in Japan, being not injurious to Abies and Picea-spp.

Hab.—Hokkaido, Honshu, Shikoku, Korea, Manchuria, Amur.

Nom. Jap.—Matsu-kareha.

This is allied to *punctatus* WK, but much larger, the larva lacking hair-pen-like clusters.

This is also quite variable and the following forms are well decriminated.

a. f. albomarginata Mars., Thous. Ins. Jap. Add. IV, p. 924, Pl. 70, f. 5 (1921).

Hab.-Hokkaido.

b. f. bifascia Grunb.

Dendrolinus segregatus ab. bifascia GRUNB., Seitz. Macrolep. ii, p. 172, Pl. 28, f. c, 3, 2 (1911) Hab.—Honshu.

c. f cinerea Grünb.

Dendrolimus segregatus ab. cinerea GRUNB., l. c., f. d, & (1911).

Hab.—Honshu?, China (Tsingtau).

d. f. coreana Mats., Journ. Coll. Agr. Hokk. Imp. Univ., XVIII, p. 19, Pl. iii, f. 5, 8 (1926).

Hab.-Korea.

e. f. fallax Mats., l. c., p. 19, Pl. III, f. 4, ô (1926). Hab.—Korea.

f. f. *ferruginea* MATS., l. c., p. 19 (1926). Hab.—Hokkaido.

g. f. fuscofascia Mars., Thous. Ins. Jap. Add. IV, p. 921, Pl. 69, f. 6, 6 (1921).

Hab.-Honshu.

h. f. griseomarginalis Mats., Jour. Coll. Agr. Hokk. Imp. Univ., XVIII, p.17 (1926).

Hab.-Hokkaido.

i. f. hiroshimana Mars., l. c., p. 19 (1926). Hab.—Honshu.

j. f. hyacinthia Mats., Thous. Ins. Jap. Add. IV, p. 923, Pl. 69, f. 7, & (1921).

Hab.—Hokkaido.

k. f. **kononis** Mats, Jour. Coll. Agr. Hokk. Imp. Univ., XVIII, p. 18, f. 3, & (1926).

Hab.--Honshu.

1. f. laterita Mats., Thous. Ins. Jap. Add. IV, XVIII, p. 922, Pl. 69, f. 6, & (1921).

Hab.—Honshu.

m. f. *latifascia* MATS., l. c., p. 923, f. 7, & (1921). Hab.—Hakkaido.

n. f. *nigrolineata* Mats., l. c., p. 922, Pl. 70, f, 3 (1921). Hab.—Honshu.

o. f. ochroleuca Nag., Bull. Nawa Ent. Lab. Gifu, ii, p. 21, Pl. ii, f. 5, & (1917).

As the figure pictured by the late K. Nagano has a long abdomen, so the author at first thought that this insect may belong to *Kunugia* Nag., but the abdomen of this typical specimen, which was sent to me by the late T. Takamuru is not long and it has the character of *Dendrolimus* Germ.

Hab.—Honshu.

p. f. **ryuzana** Mats., Jour. Coll. Agr. Hokk. Imp. Univ., XVIII, p. 18, Pl. III, f. 10, φ (1926).

Hab.-Korea.

- q. f. **segregata** Butl., Ann. Mag. Nat. Hist. (4), XX, p. 482 (1877). Hab.—Honshu, Shikoku, Kiushu.
- r. f. **shakojiana** Mats., Jour. Coll. Agr. Hokk. Imp. Univ., XVIII, p. 18, Pl. III, f. 9, & (1926).

Hab.-Korea.

s. f. tenuifascia Mars., Thous. Ins. Jap. Add. IV, p. 922, Pl. 69, f. 8 (1921).

Hab.—Honshu.

t. f. tokyonis Mats., Jour. Coll. Agr. Hokk. Imp. Univ., XVIII, p. 17, Pl. III, f. 1, 3 (1926).

Hab.—Honshu.

u. f. *tricolor* Mats., l. c., p. 19, Pl. III, f. 6, $\hat{0}$ (1926). Hab.—Korea.

5. superans Butl.

Odonestis superans BUTL., Ann. Mag. Nat. Hist. (4), p. 481 (1877).

Dendrolimus superans YANO, Zool, Mag. Tokyo, p. 413 (1915); MATS., 6000 Ins. Jap., p. 683, f. 356 (1931).

This species is not found yet in Hokkaido, the larva being injurious to the Tsuga-tree.

Hab.—Honshu.

Nom. Jap.—Tsuga-kareha.

This is also variable in colour and pattern, and the following forms are known from Japan:

a. f. **concolorata** Mars,, Thous. Ins. Jap. Add. IV, p. 912, Pl. 66, f. I (1921).

Hab.—Honshu.

b. f. **dolosa** Butl., T. E. S. Lond., p. 16 (1881); Mats., Jour. Coll. Agr. Hokk. Imp. Univ., XVIII, p. 12, Pl. II, f. 6, ♀ (1926).

Hab.-Honshu.

c. f. fentoni Butl., l. c., p. 17 (1881); Mats., l. c., p. 13 (1926).

Hab.—Honshu.

d. f. scribae Mats., l. c., p. 13, Pl. III, f. 7, & (1926).

Hab.-Honshu.

e. f. zonata Butl., T. E. S. Lond., p. 17 (1881); Mats., Thous. Ins. Jap. Add. IV, p. 921, Pl. 70, f. 6. \Diamond (1921).

Hab.-Honshu.

6. Gen. Epicnaptera RAMB.

1. ilicifolia L.

Bombyx ilicifolia L., Syst. Nat. (X), p. 497 (1758).

Hab.—Europe.

a. f. japonica Leech

Epicnaptera ilicifolia f. japonica Leech, P. Z. S. Lond., p. 628 (1888); Mats., 6000 Ins. Jap., p. 683, y 357 (1931).

This is not rare in Hokkaido, the larva being injurious to the apple-tree and *Milletia floribunda*.

Hab.—Hokkaido, Honshu, China, Manchuria.

Nom. Jap.—Hime-kareha.

7. Gen. Eriogaster GERM.

1. brevivenis * Butl.

Chrostogastria brevivenis Butl., Cist. Ent., iii, p. 119 (1885).

Eriogaster argentomaculata BART., Ent. Nach., 25, p. 353 (1899); MATS., Thous. Ins. Jap. Add. IV, p. 906, Pl. 65; f. 14, (1921).

Eriogaster brevivenis MATS., 6000 Ins. Jap., f. 385 (1931).

This is quite common in Sapporo, being easily caught by the lamp in the mid-summer.

Hab.—Hokkaido, Honshu.

Nom. Jap.—Ginboshi-kareha.

* Odonestis brevivenis Grünb., Seitz Macrolep. ii, p. 170, Pl. 27, f. f (1911) is not this species, being perhaps a species of Arguda.

2. catacoides STR.

Eriogaster catacoides STRAND, Ent. Mitteil., p. 11 (1915); MATS., 6000 Ins. Jap., p. 683, f. 359 (1931).

Eriogaster formosana MATS., Thous. Ins. Jap. Add. IV, p. 908, Pl. LXV, f. 15, & (1921).

This is quite common at Horisha in Formosa, being attracted by the lamp. Hab.—Formosa.

Nom. Jap.—Taiwan-ginboshikareha.

3. daisensis MATS.

Eriogaster daisensis MATS., Journ. Coll. Agr. Hokk. Imp. Univ., XIX, p. 22. Pl. II, f. 17, 3 (1927); 6000 Ins. Jap., p. 684, f. 360 (1931).

The silvery spot of the primaries compared with brevivevis BUTL. smaller, roundish, resembling more catacoides STR. from Formosa.

This was collected at Mt. Daisen, Honshu, at the elevation of about 1000 m. and it seems to be rare.

Hab.—Honshu (Daisen).

Nom. Jap.—Daisen-ginboshikareha.

4. kibunensis MATS.

Eriogaster kibunensis MATS., l. c., p. 23, Pl. II, f. 21, 8 (1927); 6000 Ins. Jap. p. 634, f. 361

(1931).

A single male specimen was collected by Prof. I. Sugitani at Kibune near Kyoto in July, 1917.

Hab.—Honshn (Kibune).

Nom. Jap.—Kibune-ginboshikareha.

5. takamukui MATS.

Eriogaster takamukui MATS., l. c., p. 24, Pl. II, f. 22, \hat{a} (1927); 6000 Ins. Jap. p. 684, f. 362 (1931).

One male specimen was collected at Yanagawa near Fukuoka in August by the late T. TAKAMUKU.

Hab.-Kiushu (Yanagawa).

Nom. Jap.—Takamuku-ginboshikareha.

6. yatsugadakensis Mars.

Eriogaster yatsugndakensis MATs., l. c., p. 23, Pl. II, f. 18, & (1927); 6000 Ins. Jap., p. 684, f. 363 (1931).

Near E. kibunensis MATS., but the primaries golden yellow at the base and dorsal margin, the veins being brownish.

One male specimen was collected at Mt. Yatsugadake in the Prov. Shinano.

Hab.—Honshu (Shinano).

Nom. Jap.—Yatsugadake-ginboshikareha.

8. Gen. Estigena MR.

1. pardalis WK.

Megasoma pardale WK., Cat., VI, p. 1453 (1855).

Estigena nandina WK., Cat. Lep. E. I. House, ii, p. 426 (1959).

Gastropaca abstracta WK., Cat., XXXII, p. 551 (1865).

Lebeda scriptiplaga Wk., l. c., p. 569 (1865).

Estigena pardalis Grund., l. c., p. 170, Pl. 27, f. c (1911); MATS., 6000 Ins. Jap., p. 684, f. 364 (1931).

This is quite common in Formosa.

Hab.—Formosa (Horisha).

Nom. Jap.-Mayeki-kareha.

9. Gen. Gastropacha Ochs.

1. coreana MATS.

Gastropacha corcana MATS., Jour. Coll. Agr. Hokk. Imp. Univ., XIX, p. 22, Pl. III, f. 3, 3 (1927); 60c0 Ins. Jap.; p. 685, f. 365 (1931).

This is not common in Korea, being one of the biggest Gastropacha-species

in our faunistic region.

Hab.—Korea,

Nom. Jap.—Chosen-kareha.

2. horishana Mats.

Gastropacha horishana MATS., Journ. Coll. Agr. Hokk. Imp. Univ., XIX, p. 21, Pl. II, f. 14, 3 (1927); 6000 Ins. Jap., p. 685, f. 366 (1931).

This was caught at Horisha by Messrs. K. Kikuchi and R. Saito, being not common.

Hab,—Formosa.

Nom. Jap.—Hoso-hoshikareha.

3. taiwana WILEM.

Gastropacha taiwana WILEM., Ent., p. 16 (1915).

Gastropacha khasiana MATS., (nec Swinh.) 6000 Ins. Jap., p. 686, f. 367 (1931).

This resembles much G angustipennis W_{K} , but smaller, paler, at the termen grayish, the brownish spot-series being not conspicuous.

This is not rare at Baibara, being attracted by the lamp.

Hab,-Formosa.

Nom. Jap.—Hosoba-hoshikareha,

4. populifolia Esp.

Bombyx populifolia Esp., Schmett., iii, p. 62, Pl. IV, f. 3, 4, Pl. VIII, f. 1 (1782).

Gastropacha populifolia Grüne., Seitz Macrolep. Pal. ii, p. 169, Pl. 27, f.e (1911); MATS., 6000
Ins. Jap. p. 685, f. 368 (1931).

This is not common in Japan.

Hab.-Hokkaido, Honshu, Korea, China, Europe.

Nom. Jap.—Hoshi-kareha.

a. f. angustipennis WK.

Gastropacha angustipennis WK., Cat., IV, p. 1394 (1855).

Hab.—Formosa, N. India.

b. f. japonica MATS. (n. f.)

Gastropacha populifolia f. japonica MATS. (nec Leech), 6000 Ins. Jap., p. 685, f. 368, Q (1931).

9. Differs from the typical specimen in having much larger conspicuous series of fuscous spots; the middle fuscous line of the head and thorax broader and much conspicuous.

Hab.—Shikoku (Iyo); 2 (Iô, I♀) specimens were collected by Mr. ARA-KAWA and sent to me for identification.

5. quercifolia L.

Bombyx quercifolia L., Syst. Nau. (X), p. 497 (1758).

Gastropacha quercifolia f. alnifolia OCHS., Schm. Eur. ii, p. 239 (1810).

Gastropacha quercifolia f. cerdifolia Feld, Wien. Ent. Mon., VI, p. 35 (1862); Grünb., l. c., .p 169, Pl. 27, f. d, e (1911); Mats., 6000 Ins. Jap., p. 686, f. 269 (1931).

This is quite common in Japan, the caterpillar being injurious to the appletree,

Hab.—Hokkaido, Honshu, China, Manchuria, Europe.

Nom. Jap.—Nami-kareha.

6. tsingtauica Grünb.

Gastropacha tsingtanica Grüne., Seitz Macrolep. II, p. 169, Pl. 27, f. c, d (1911); Mats., 6000 Ins. Jap., p. 586, f. 370, % (1931).

This may be the same species with G. angustipennis W_{K} ., but the abdomen of the former is much infuscated.

This is not rare at Sapporo, being caught by the lamp.

Hab.—Hokkaido, Honshu, China.

Nom. Jap.—Haraguro-hoshikareha.

9. Gen. Karenkonia MTAS. (n. g.)

1. taiwana Mats. (n. sp.)

3. Reddish brown, antemedial, medial and postmedial lines fuscous brown, antemedial below the medial vein double, geniculated outwardly, in the interspace being paler, in the cell at the outside of the line with a white spot;

medial line oblique, scallop-like chained, gently excurved, at the outer side paler, especially near the dorsum; postmedial line darker, wavy, becoming broader and conspicuous towards the dorsum, opening at near the apex after gently excurving, at the outside in each interespace tooth-like produced; at the termen a series of fuscous brown spots; fringe paler, checquered with fuscous brown. Primaries purplish brown, in the middle with 2 paler bands which are diverged towards the costa. Underside in both wings with each 2 fuscous bands, those



Karenkona taiwana MATS.

of the secondaries being nearer to each other. Exp.: 50 mm.

Hab.—Formosa; one male specimen was collected by Messers. T. Okuni and J. Sonan.

Nom. Jap.—Karenko-kareha.

Karenkonia n. g.-Allied to Dendrolimus Germ., but differs from the

latter in having the pectination of antennae longer; veins 6, 7 and 9 of the primaries long stalked, costa nearly straight, scarcely curved near the apex; from the base to the middle scattered with long narrow hairs; all tibiae slender, with long but not dense hairs, the mid- and hind-tibiae with no apical spur; abdomen at the apex with a long forked hair-bush.

Genotype—Karenkonia taiwana Mats.

10. Gen. Kononia MATS.

1. pinivora MATS.

Kononia pinivora MATS., Ins. Mats., p. 112, f. 1(1924); 6000 Ins. Jap., p. 686, f. 371 (1931). This was found up on Mt. Daisetsu in July and August among the forests of Pinus pumila.

Hab.—Hokkaido (Mt. Daisetsu).

Nom. Jap.—Haimatsu-kareha.

11. Gen. Kunugia NAG.

1. ampla WK.

Odonestis ampla WK., Cat., p. 1417 (1855).

Dendrolimus formosanus Mats., Jour. Coll. Agr. Hokk. Imp. Univ., XIX, p. 17, Pl. iii, f. 1, ô, 2, 9 (1927).

Metanastria formosana MATS., 6000 Ins. Jap., p. 688-9, f. 377 (1931),

This is variable in colour and pattern, being one of the biggest *Lasio-campid*-moths in the Oriental region.

Hab.—Formosa (Horisha).

Nom. Jap.—Takasago-kareha.

a, f. flavopallida MATS.

Dendrolimus formosanus MATS. ab. flavopallida MATS., Jour. Coll. Agr. Hokk. Imp. Univ.. XIX, p. 17, Pl. III, f. 5, \$ (1937); 6000 Ins. Jap., p. 689, f. 377, b, \$ (1931).

Hab.—Formosa.

b. f. fuscobasalis MATS.

Dendrolimus formosanus MATS. ab. fuscobasalis MATS., l. c., p. 17, Pl. III, f. 4, 8 (1927); 6000 Ins. Jap., p. 689, f. 377, c, 9 (1931).

Hab.—Formosa.

c. f. formosana MATS.

Dendrolimus formosanus MATS., l. c., p. 16, Pl. III, f. 1, 6, 2, 2 (1927); 6000 Ins. Jap., p. 688, f. 377, a (1931).

Hab.—Formosa.

d. f. kimadara Mats. (n. f.)

Differs from f. formosana MATS. in having the ground colour pale yellow-

ish, at the basal third somewhat brownish, at the costa with a large roundish yellowish patch, along the submarginal line near the apex with 3 yellowish spots.

Hab.—Formosa; one male specimen was collected by the late T. TAKA-MUKU.

e. f. kusari MATS. (n. f.)

Differs from f. *fuscobasalis* MATS. in having much darker colour, the submarginal line of paler spot-series edged on each side by fuscous scallops, the medial line obsolete, the discal white spot being smaller.

Hab.—Formosa; 2 male specimens were collected at Baibara near Horisha by Mr. K. Kikuchi.

f. f. metanastroides STR.

Dendrolimus metanastroides STR., Ent. Mitteil., p. 10 (1915).

Hab.—Formosa.

g. f. usuguronis MATS. (n. f.)

Much similar to f. kusari MATS., but in this form lacking the paler chain-like submarginal line.

Hab.—Formosa; one male specimen was collected by Mr. K. Kikuchi at Baibara.

2. arizana WILEM.

Metanastria arizana Wielm., Ent., 43, p. 192 (1911); Grünb., l. c., p. 396, (1921); Mats., 6000 Ins. Jap., 688, f. 376 (1931)

This was caught at Mt. Arisan by the late A. E. WILEMAN and it seems to be rare.

Hab.—Formosa (Arisan).

Nom. Jap.—Arisan-kareha.

3. brunnea WILEM.

Metanastria brunnea WILEM., Ent. V, p. 15 (1915); MATS., 6000 Ins. Jap., p. 688, f. 376 (1931). A few specimens were collected at Horisha by the author.

Hab.—Formosa (Horisha).

Nom. Jap.—Shirohoshi-obikareha.

4. iwasakii NAG.

Dendrolimus ? iwasakii NAG., Bull. Nawa Ent. Lab. Gifu, ii, p. 23, Pl. II, f. 8, 9 (1907).

The author has not seen the original specimen, but according to the figure given by the late K. NAGANO, it may most probably belong to *Kunugia*.

Hab.—Okinawa (Yonakuni).

Nom. Jap. - Iwasaki-kareha.

5. kikuchii Mats.

Dendrolimus kikuchii MATS., Jour. Coll. Agr. Hokk. Imp. Univ., XIX, p. 18, :Pl. II, f. 16, & (1927).

Metanastria kikuchii MATS., 6000 Ins. Jap, p. 689, f. 378 (1931).

A few specimens were collected by the author.

This may be an aberrant form of K. arizana WILEM.

Hab.-Formosa (Horisha).

Nom. Jap.—Kikuchi-kareha.

a. f. saitonis Mats., l. c., p. 18, Pl. ii, f. 23, & (1927); 6000 Ins. Jap., p. 689, f. 378, b (1931).

Hab.—Formosa (Horisha).

6. undans WK.

Lebeda undans WK., Cat. VI, p. 1458 (1855).

Bombyx fasciatella MÉN., Bull. Acad. Pèters., p. 218 (1858).

Bombyx flaveola Motsh., Bull. Mosc. XXIX, p. 192 (1866).

Odonestis excellens BUTL., Ann. Mag. N. H. (4), XX, p. 481 (1877).

Dendrolimus undans GRÜNB., l. c., p. 173 (1911).

Metanastria undans GRÜNB., l. c., p. 396, Pl. 34, f. d (1921).

Metanastria undans f. excellens MATS., 6000 Ins. Jap., p. 690, f. 381 (1931).

This caterpillar is very injurious to the leaves of Quercus-trees.

Hab.—Hokkaido, Honshu, India.

Nom. Jap. - Kunugi-kareha.

a. f. excellens Butl.

Odonestis excellens Butl., Ann. Mag. N. H. (4), XX, p. 481 (1877).

Hab.—Hokkaido, Honshu.

7. yamadai NAG.

Kunugia yamadai NAG., Bull. Nawa Ent. Lab., II, p. 24, Pl. ii, f. 6, 7, Pl. iii, f. 28-9 (1917). Metanaitria yamadai MATS., 6000 Ins. Jap., p. 690, f. 282 (1931).

This is not abundant, its casterpillar being injurious to the leaves of Quercus-plants.

Hab.—Honshu.

Nom. Jap.—Yamada-kareha.

22. Gen. Lebeda WK.

1. nobilis WK.

Lebeda nobilis WK., Cat. VI, p. 1456 (1855); GRÜNB., l. c., p. 147, Pl. 30, f. c (1911); MATS., 6000 Ins. Jap., p. 687, f. 372 (1931).

This is one of the biggest moth in the Oriental region, its caterpillar being about 5 inches long, subflat, hairly, injurious to the *Acacia*-plants.

Hab.—Formosa, China, India.

Nom. Jap.—O-kareha.

13. Gen. Malacosoma HB.

1. neustrium L.

Bombyx neustria L., Syst. Nat. (X), p. 500 (1758).

Clisiocampa testacea Motsch., Etud. Ent., p. 32 (1860).

Melacosoma neustria Grünb., Seitz Macrolep. ii, p. 150, Pl. 24, f. b (1911); MATS., 6000 Ins. Jap., p. 687, f. 374 (1931).

This is very common in Japan, the larva being very injurious to the Rosaceous plants.

Hab.-Hokkaido, Honshu.

Nom. Jap.—Obi-kareha.

- a. f. coreana Mats. (n. f.)
- 3. Nearly the same colour with that of the female, reddish brown, with pale yellowish bands; secondaries with no band.

Hab.—Korea; one male specimen was collected by Dr. H. Окамото at Koryo.

- b. f. formosana Mats. (n. f.)
- ô. Differs from f. testacea Motsch. in having more paler grayish shade, the ante- and postmedial lines broader, primaries at the underside only in the disc somewhat brownish.

Hab.—Formosa; 2 male specimens were collected by Messrs. T. Uchida and H. Kôno at Tompo in Niitaka and another male by the late T. Така-мики at Horisha.

c. f. interrupta Mats.

Maiacosoma interrupta Mats., Thous. Ins. Jap. Add. IV, p. 901, Pl. 65, f. 11, 8 (1921); 6000 Ins. Jap., p. 686, f. 373 (1931).

Hab.—Hokkaido, Honshu (Shinano).

d. f. takamukui Mats. (n. f.)

 φ . Differs from the typical form in having the basal and terminal parts of the primaries broadly, and at the outer third of the secondaries pale yellow.

Hab.—Kiushu; one female was collected by the late Т. Такамики at Yanagawa.

14. Gen. Metanastria * GERM.

1. hyrtaca CRAM.

Bombyx hyrtaca CRAM., Pap. Exot.iii, p. 249 (1780).

Taragama hyrtaca GRÜNB., Seitz Macrolep. ii, p. 176, Pl. 29, f. a (1911).

Metanastria hyrtaca Grünb., l. c., Indo-Austr. ii, p. 396, Pl. 34, f. e (1921); MATS., 6000 Ins. Jap., p. 693, f. 391 (1931).

This is quite common in Formosa, the male and female differ much in colour and pattern, the latter being rare.

Hab.—Formosa, China, India.

Nom. Jap. - Monkuro-kareha.

* Since under the genus *Metanastria* Germ. many species of Lasiocampid-moths were described, but the author found comparing with the genotype—*hyrtaca* Cram.—most of them must be treated under an other different genus. After studying the literature the author convinced that most of them may be appropriate to treat under the genus *Kunugia* NAG. (Bull. Nawa Ent. Lab. Gifu, ii, p. 24, 1917). Many other species described under *Metanastria* Germ. most probably may belong to *Kunugia* NAG.

15. Gen. Odonestis GERM.*

1. pruni L.

Bombyx pruni L., Syst. Nat. (X), p. 498 (1758).

Lasiocampa pruni LEECH, P. Z. S. Lond., p. 627 (1888).

Odonestis pruni LEECH, T. E. S. Lond., p. 115 (1899); MATS., 6000 Ins. Jap., p. 691, f. 383 (1931).

This is quite common at Sapporo, being attracted by the lamp, especially in July. The female is rare.

Hab.—Hokkaido, Honshu, Manchuria, Europe.

Nom. Jap.—Ringo-kareha.

* Odonestis brevivenis Grünb., (Seitz Macrolep. Pal. ii, p. 170, Pl. 27, f. 1911) is perhaps a species belonging to Gen. Arguda Moor.

16. Gen. Pachyparoides MATS.

1. albisparsa Wilem.

Metanastria albisparsa Wilem., Ent., p. 137 (1910); GRUNB., Seitz. l. c., p. 396 (1921).

Pachyparoides albinotum Mats., Journ. Coll. Agr. Hokk. Imp. Univ., XIX, p. 19, Pl. V, f. 43 (1927).

Pachyparoides albisparsa MATS., 6000 Ins. Jap., p. 691, f. 384 (1931).

This is quite rare in Formosa, being found in the mountainous regions of Horisha and Rantaizan.

Hab.—Formosa.

Nom. Jap. - Sejiro-kareha.

17. Gen. Paralebeda Auriv.

1. plagifera WK.

Lebeda plagifera WK., Cat. VI, p. 1459 (1855).

Opsirhina crinoides FELD., Reise d. Novara, Lep. IV, Pl. 84, f. 3 (1874).

Paralebeda plagifera GRÜNB., l. c., p. 175, f. 30, f. d (1911); MATS., 6000 Ins. Jap., p. 691, f. 385, 3 (1931).

This is quite common at Horisha, being caught by the lamp.

Hab.—Formosa, China, Philippines, India.

Nom. Jap.—Nakamon-kareha.

18. Gen. Pseudarguda Mats. (n. g.)

1. formosae WILEM.

Arguda formosae Wilem., Ent., p. 136 (1910); MATS., 6000 Ins. Jap., p. 679, f. 341 (1931).

The male is not few in Horisha, but the female rare.

Hab.—Formosa (Horisha, Kanshirei).

Nom. Jap.—Taiwan-kareha.

Pseudarguda Mats. (n. g.)

Closely allied to Arguda Moor., but differs from the latter as follows:

Antennae with the branches at the base shorter, towards the middle much longer, and then becoming much shorter, gradually decreasing towards the apex; palpi at the base slender, at the apex enlarged, being oval in shape; primaries with veins 6 and 7 stalked, the stalk being shorter than the discocellulars, the outer margin nearly straight, much more oblique, so that the tornus obtuse; secondaries with veins 4 and 5 stalked, the stalk also shorter than the discocellulars, the costal margin scarsely concave in the middle, at the outer margin rounded, not truncated at the apex; legs bushy pubescent, especially on the hind legs, the mid- and hind-tibiae on each apex with a pair of spurs, concealed in the hairs.

Genotype—Arguda formosae WILEM.

19. Gen. Selenephera RAMB.

1. lunigera Esp.

Bombyx lunigera Esp., Schmet., iii, p. 114, Pl. 22, f. 5 (1784). Selenephera takamukuana MATS., Thous. Ins. Jap. Add. IV, p. 904 (1921). Selenephera lunigera f. takamukuana MATS., 6000 Ins. Jap., p. 692, f. 386 (1931). The typical species inhabits in Europe, but the local forms come from Saghalien and Honshu (Nikko), but both being rare.

Nom. Jap.—Takamuku-kareha.

a. f. takamukuana MATS.

Selenephera takamukuana MATS., Thous. Ins. Jap. Add. IV, p. 904 (1921).

Hab.—Honshu (Nikko).

b. f. sachalinensis MATS. (n. f.)

In 1925, when the author enumerated the butterflies and moths fron Saghalien (Jour. Coll. Agr. Hokk. Imp. Univ., Vol. XV, Pt. 3), he has identified this form as takamukuana Mars., but it differs from it in having much broader ante- and postmedial whity lines.

This is not rare in Saghalien.

Hab.--Saghalien.

20. Gen. Syrastrena Moor.

1. minor Moor.

Syrastrena minor Moor., Lep., Atk., p. 78 (1879); MATS., 6000 Ins. Jap., p. 632, f. 387 (1931). 4 male specimens were collected at Horisha by the late T. TAKAMUKU; it seems to be rare.

Hab.—Formosa, India.

Nom. Jap.—Futasuji-togari-kareha.

21. Gen. Syrastenoides MATS.

1. horishana Mats.

Syrastenoides horishana Mats., Jour. Coll. Agr. Hokk. Imp. Univ., XIX, p. 19, Pl. II, f. 20, 3 (1927); 6000 Ins. Jap., p. 692, f. 388 (1931).

A quite many specimens were collected by the late T. TAKAMUKU.

Hab.—Formosa (Horisha).

Nom. Jap.—Horisha-kareha.

22. Gen. Takanea NAG. (Seitzia SCRIBA).

1. miyakei WILEM.

Crinocraspeda? miyakei WILEM., Ent., p. 192 (1911).

Takanea miyakei NAG., Ball. Nawa Ent. Lab. Gifu, ii, p. 12, Pl. 1, f. 3, Pl. IV, f. 22-26 (1917); MATS., 6000 Ins. Jap., p. 692, f. 390 (1931).

Seitzia phimigera SCRIBA, Ent. Rund., 36, p. 42, f. 3 (1919).

Takanea japonensis MARUMO, Jour. Coll. Agr. Tokyo, p. 263, Pl. 20, f. 4 (1920).

This is quite common in the mountainous regions of Saghalien, Hokkaido

and Honshu.

It is quite variable in colour and pattern, the figure of Dr. Marumo may have been pictured by a poor specimen. About 50 specimens lying before me have mostly different pattern and coloration.

Hab.—Saghalien, Hokkaido, Honshu.

Nom. Jap. - Miyake-kareha.

2 excisa WILEM.

Criocraspeda excisa WILEM., Ent., p. 192 (1910).

Takanea excisa MATS., 6000 Ins. Jap., p. 692, f. 389 (1931).

This was caught at Mt. Arisan by the late A, E. WILEMEN in July, but the author has not received yet this specimen from Formosa.

Hab.—Formosa (Arisan).

Nom. Jap.—Arisan-kareha.

23. Gen. Trabala WK.

1. vishnou Lef.

Gastropacha vishnou LEF., Zool. Journ. III, p. 203 (1827).

Amydona prasina WK., Cat. VI, p. 1417 (1855).

Amydona pallida WK., l. c., (1855).

Amydona basalis WK., l. c., p. 1415 (1855).

Gastropacha sulphurea Koll., Hügel's Kaschmir. IV, (2), p. 203 (1844).

Trabala mahanada MR., P. Z. S. Lond., p. 821 (1865).

Crinocraspeda guttata Mats., Thous. Ins. Jap. Suppl., I, p. 85, Pl. XIII, f. 1 (1909).

Trabala vishnou Grünb., Seitz Macrolep. ii, p. 166, Pl. 27; f. a (1911); MATS., 6000 Ins. Jap., p. 692, f. 392 \$\varphi\$ (1931).

This is quite common in Formosa, being collected by the lamp.

Hab.--Formosa, China, India.

Nom. Jap. - Kiiro-kareha.

24. Gen. Trichiura STEPH.

1. tamanukii Mats.

Trichiura tamanukii MATS., Ins. Mats., ii, p. 120, f. 2, 3 (1927); 6000 Ins. Jap., p. 693, f. 393 (1931).

Six male specimens were collected by Mr. K. Tamanuki at Konuma, Saghalien, and sent to me for identification. This resembles somowhat *T. crataegi* L. from Europe.

Hab.—Saghalien (Konuma).

Nom. Jap. — Tamanuki-kareha.

25. Gen. Wilemaniella MATS.

1. discitincta WILEM.

Cosmotriche discitincta WILEM., Ent., p. 321 (1914).
Wilemaniella discitincta MATS., 6000 Ins. Jap., p. 694, f. 394, & (1931).

This is quite common in May, especially in the mountainous region of Formosa.

Hab.—Formosa.

Nom. Jap.—Nakaguro-karena.

BEITRAG ZUR LYCIDEN-FAUNA JAPANS

Von

Hiromichi Kôno

(Mit 2 Figuren)

In der vorliegenden Arbeit habe ich neue Fundorte von einigen Lyciden-Arten und die Beschreibung der I Gattung, I Untergattung, 3 Arten und I Unterart gegeben.

Das Material, welches bei dieser Arbeit mir vorlag, stammt ganz aus der im Entomologischen Museum der Kaiserlichen Hokkaido Universität zu Sapporo deponierten Kollektion.

In dieser Stelle möchte ich Herrn Prof. Dr. S. Matsumura, welcher mich freundlichst angeleitet hat, meinen innigsten Dank ausdrücken.

Macrolycus dominator KLEINE

Deutsch. Ent. Zeitschr., p. 325 (1925).

Bisher ist die Art nur aus Formosa bekannt. Bei mir aber auch liegt ein Weibchen aus Okinawa vor.

Fundorte:—Okinawa (1 9, S. Sakaguchi); Formosa (Таррап, Kagi, Ibaho, Berg Arisan).

Ins. Mats., Vol. VII, No. 1 & 2, December, 1932.